

ART. 15. NOTES ON SOME NON-PASSERINE BIRDS  
FROM THE PHILIPPINES

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In August and September 1956 I collected birds for a virus research project in central Luzon, Philippine Islands. A general report on this collection and a more recent Luzon collection acquired jointly by Carnegie Museum and the American Museum of Natural History will eventually appear. In order to keep the final report manageable in size, I am publishing separately certain of the more extensive taxonomic discussions arising from these Philippine studies. Several such papers have already appeared; the present paper treats five non-passerine species at greater length than would be practical in the final report. These findings are based primarily on the combined collections of Carnegie Museum and the American Museum of Natural History; I am grateful to Dr. Dean Amadon of the latter institution for many courtesies. Certain additional specimens were examined at the United States National Museum through the kindness of Mr. H. G. Deignan, and others were borrowed from the Museum of Comparative Zoölogy through Dr. Raymond A. Paynter, Jr.

The field work in 1956 was carried out as part of a project of the Graduate School of Public Health, University of Pittsburgh, under the sponsorship of the Commission on Viral Infections, Armed Forces Epidemiological Board, and supported in part by the Office of the Surgeon General, U. S. Department of the Army. Specimens were collected and prepared with the invaluable assistance of Mr. Telesforo Oane and the generous counsel of Dr. Canuto G. Manuel, both of the National Museum of the Philippines.

*Ptilinopus occipitalis*. Yellow-breasted Fruit Dove

Several authors have discussed this species since Manuel (1936, p. 331) wrote that he was unable to find any valid subspecific characters in the series of 23 specimens then in the National Museum of the Philippines. Some of these authors, including Manuel, have used the generic name *Leucotreron* for this species, but I follow the most recent monographer of this group (Cain, 1954) in adopting the broader genus, *Ptilinopus*.

Much of the discussion has centered on two names given to specimens from Mindanao: *incognitus* Tweeddale, 1877, and *brevipes* Hachisuka, 1930. Hachisuka himself (1932, p. 185) synonymized his *brevipes* with *incognitus*, and was followed by Ripley and Rabor (1956, p. 289) and de Schauensee (1937, p. 4). Only one author, Peters (1939, p. 84) seems to have appreciated the significant fact that Tweeddale's type came from Butuan, Agusan, a lowland region, and was thus not necessarily the same thing as the Mt. Apo bird described as *brevipes* by Hachisuka. Manuel, who was unable to recognize any races, had only lowland specimens from Mindanao. De Schauensee's comparisons were made between two lowland Mindanao specimens and one specimen from Luzon (*occipitalis*).

Mt. Apo birds are definitely smaller than true *occipitalis*, as stated by Ripley and Rabor, but the color differences are even more striking than would be gathered from their comments. They compared their Mt. Apo birds with specimens from Negros rather than with topotypical *occipitalis* from

Luzon. From the latter, Mt. Apo birds differ even more than from Negros birds. Two specimens from Ayala, Mindanao, a lowland locality, are intermediate both in size and color between Luzon *occipitalis* and the Mt. Apo birds. De Schauensee's two Lake Lanao specimens are also somewhat intermediate in size (The "striking" color differences listed by de Schauensee are individual variations in this species, possibly correlated with age but not with geography).

In view of the differences between highland and lowland Mindanao specimens, it would seem preferable to follow the treatment of Peters (1939, p. 84), recognizing the highland race under the name *brevipes* Hachisuka; the name *incognitus*, used by recent authors, is based on an intermediate population which is perhaps nearer *occipitalis* than *brevipes*.

In true *brevipes* the throat is heavily washed with yellow, this color invading the whole frontal area to some extent. The yellow breast patch is deeper in color than that of *occipitalis*, and is washed with red in extreme specimens. The red abdominal patch averages more deeply colored and also larger than that of *occipitalis*. This is contrary to the statement of Peters (*loc. cit.*), but Peters had, for comparative material of *occipitalis*, only two specimens from Mindoro. I have examined these two skins, and find that their red abdominal patches equal or exceed those of any of the Luzon specimens seen. They are, however, nearest *occipitalis*.

Specimens from Negros and Samar (wrongly taken by Ripley and Rabor [1956, p. 289, and 1958, p. 30] as typical of *occipitalis*) are intermediate between *occipitalis* and *brevipes*. They are so distinctive in appearance as possibly to be considered worthy of subspecific recognition. I do not propose to take this step, but will point out that if recognition of a third subspecies were to prove desirable in view of the large range occupied by these intermediate birds, the race should bear the name *incognitus* Tweeddale, as lowland Mindanao birds resemble those of Negros and Samar quite closely. A single Cebu specimen in Carnegie Museum also belongs here; the species may be extinct on that island (Rabor, 1959, p. 40). These birds differ from topotypical *occipitalis* as follows: throat and forehead with deeper yellowish wash; yellow patch on breast brighter and richer in color, and extending to the whitish throat instead of being separated from it by a gray band; raspberry-colored abdominal patch averaging more extensive. These characters are all obvious trends toward the conditions found in *brevipes*. In size these specimens average slightly smaller than *occipitalis*, and are thus larger than *brevipes* (See measurements given by Ripley and Rabor, 1956, p. 289).

In summary, then, the name *brevipes* Hachisuka should be used for the Yellow-breasted Fruit Dove of the Mindanao highlands. Islands from which I have examined specimens which may be called *occipitalis* include Luzon, Mindoro, and Sibuyan. Specimens from Negros, Samar, Cebu, and the Mindanao lowlands represent an intermediate population, *occipitalis* X *brevipes*, for which the name *incognitus* Tweeddale is available.

### *Cacomantis variolosus*. Rufous-breasted Brush Cuckoo

The extreme taxonomic positions that may be taken by contemporary authors are well illustrated by opinions on the status of the genus *Cacomantis*. Delacour (1951, p. 19) synonymizes *Cacomantis* with *Cuculus* on the grounds

that size is the only difference, with the species *pyrrhophanus* (usually assigned to *Cacomantis*) bridging the gap. On the other hand, Verheyen (1956, p. 25) places *Cuculus* alone in a subfamily Cuculinae, placing *Cacomantis* in a subfamily "Surniculinae." No species of *Cacomantis*, however, is listed among Verheyen's examined material. After having examined skins of all species of *Cuculus* and *Cacomantis*, I feel that Delacour is almost certainly correct, but I use *Cacomantis* for the time being, pending a thorough study of this group of cuckoos.

*Cacomantis variolosus* is one of the many East Indian species that badly need revision, but for which carefully labeled material is still grossly inadequate. The series I have examined strongly suggests that some authors who have discussed this species have not taken certain factors into sufficient consideration:

1. Post-mortem color change. My two specimens, taken in 1956, were compared within the following year to older Luzon specimens. The shade of brown on the underparts of the freshly collected birds was decidedly different from that of the older skins.

2. Individual variation, particularly in the color of the underparts (including relative amounts of brown and gray). Such variation is apparently extensive.

3. Migration. Some forms of *Cacomantis* are known to be migratory. A specimen collected by Zimmer at Antipolo, Rizal Province, Luzon, on December 14, 1913, differs from any other specimen of *C. v. sepulcralis* examined in the richness of the rufescent color of the underparts, approaching the more southern *C. v. everetti* in this respect. That this color has nothing to do with the age of the specimen is indicated by the strikingly paler underparts of a specimen taken by Zimmer at nearby Manila only a month later. Both specimens were marked adult male by the collector.

Some combination of the factors listed above may account for certain discrepancies in the literature. For instance, Ripley and Rabor (1958, p. 38) listed an unspecified number of Negros and Mindanao specimens as having the palest and dullest underparts in their series, while Rand (1951, p. 581) found that one Mindanao and one Negros specimen were the *darkest* and *richest* chestnut below, while another Negros specimen was as pale as Luzon birds.

Hartert (1925, p. 166) separated *everetti* on the basis of a single specimen from Tawitawi with no gray on the throat; however, as Rand (1951, p. 581) has indicated, this is a highly variable character. Peters (1939, p. 90) extended the range of *everetti* to Basilan on the basis of another single specimen which agreed with Hartert's description in having "the entire under surface chestnut to the base of the lower mandible." However, A.M.N.H. 625758, also from Isabela, Basilan, has just as much gray on the throat as any Luzon specimen. Even discounting this character, the only one used by Hartert, *everetti* appears to be separable from *sepulcralis* on the basis of deeper color of the underparts, and perhaps somewhat darker, less clear gray head. Ripley and Rabor (1958, p. 38) listed Basilan among their localities for *sepulcralis* without commenting on the fact that Peters assigns Basilan specimens to *everetti*. A single immature specimen of *everetti* from

Tawitawi in the American Museum has the dark transverse bars of the underparts much broader than any of a series of five of similar age from other Philippine localities.

Whether *everetti* is separable from all of the many non-Philippine races of *Cacomantis variolosus*, and whether the Philippine population here called *sepulcralis* is actually inseparable from that race (described from Java and Sumatra) can not be determined until a much more thorough study, utilizing many more specimens than hitherto assembled by any author, has been accomplished.

Rand (1951) has summarized the tangled history of the confusion of the two species *Cacomantis variolosus* and *C. merulinus* in the literature of Philippine birds. He established that *variolosus* occurs on Luzon, Negros, and Mindanao, and Ripley and Rabor (1958, p. 37) added Mindoro and Cebu. To this list may be added Masbate, on the basis of the Bourns and Worcester specimen from that island listed by McGregor (1909, p. 374) under "*Cacomantis merulinus*", and now in Carnegie Museum.

Examination of a composite series of all available races of *Cacomantis variolosus* in the American Museum of Natural History has permitted a few deductions about the plumage sequence in that species. Even in the well-known European Cuckoo, *Cuculus canorus*, the plumage sequence is not fully understood (Witherby *et al.*, 1938, p. 300), but *Cuculus* appears to have a cycle including both a prebasic and a prealternate molt (for terminology see Humphrey and Parkes, 1959). I have not attempted to work out the sequence in *Cacomantis variolosus* in full, but the following observations may be of interest.

Two specimens were taken during the 1956 expedition; C.M. 137164 on September 6, and C.M. 137287 on September 29. The latter is marked "skull fully ossified", the former "windows in skull." The ovaries of both specimens were about 5 mm. in diameter. The specimen with the ossified skull has a more "immature" look about it than does the other, having faint brownish edges to the wing coverts and secondaries, and indistinct barring on the posterior underparts, particularly the flanks. C.M. 137164, with "windows" in the skull, has no discernible edgings on the wing feathers, and merely the faintest trace of ventral barring. The base of the mandible of the latter specimen was "dull orange", that of C.M. 137287 (skull "ossified") "yellowish horn." Gilliard (1950, p. 483) gave the color of the base of the mandible of the adult as "lemon yellow", of the immature as "pale orange." I have examined four of the five specimens collected by Gilliard at Lamao, Bataan Province, Luzon; the fifth was apparently deposited in the collection of the National Museum of the Philippines. Gilliard lists these specimens as "two male immatures, two females, one (?)." Collating this list with the labels, it appears that the specimen left in Manila was one of the two "male immatures." The one bird so labeled in the American Museum is molting out of a barred into an adult-like plumage. The other three specimens are all barred, and it thus appears that Gilliard was under the impression that the adult female of *variolosus*, like that of certain other Cuculinae, is barred and unlike the male. This, of course, is incorrect, and the distinction between "adults" and "immatures" in Gilliard's soft-part color notes is meaningless. He had no adults.



Examination of certain non-Philippine specimens of this species indicated that the barred juvenal plumage is succeeded by a *second* barred plumage, which is followed by the first "adult" type of plumage (I avoid using definite plumage names for these until the cycle has been worked out). The latter is not the definitive plumage, and may, especially in females, be more or less barred on the underparts. Both of the 1956 specimens are apparently at this stage. The discrepancy in skull ossification may be explained if *Cacomantis* follows the schedule of *Cuculus*; Verheyen (1953, p. 16) found that in *Cuculus canorus* at least 10-11 months may elapse before the cranium has become completely ossified. The two 1956 birds would then represent specimens taken near the end of this period; it will be noted that the specimen with "fully ossified" cranium was taken over three weeks later than the one with "windows".

### *Collocalia esculenta*. Glossy Swiftlet

With several important series of specimens before me that were unavailable to Mayr at the time he discussed the Philippine races of this species (in Delacour and Mayr, 1945, p. 109-110). I find that my observations differ from his in several respects.

I am unable to see any consistent difference in either the color or relative glossiness of the back, or in the relationship between crown and back color, in *isonota*, *marginata*, or *bagobo*, although Mayr mentions these characters several times. There is a certain amount of individual variation in blueness or greenness of iridescence within a series from a single locality, and it is also possible that, as in other iridescent birds, the apparent color may change with wear.

As for size, there is more variation than indicated by Mayr's figures, which were based on an admittedly small series. There is also more overlap between *isonota* and *marginata* than Mayr believed:

Mayr *isonota* wing 102-108 mm.; *marginata* wing 95-103 mm.

Parkes *isonota* wing 98-107 mm.; *marginata* wing 93.5-106 mm.

Mayr named the race *septentrionalis*, which I have not seen, from the small islands north of Luzon. He characterized it as "larger [than *marginata*], paler and more greenish on the back", and gave the wing lengths of two of his five specimens as 105 and 106 mm. Comparison with the figures above will show that if *septentrionalis* is a valid race, it must be based on color characters alone. I do not think size is of much significance among these populations, and certainly it is misleading to describe, as Mayr does, a single Mindoro specimen with a wing of 101 mm. as "smaller" than *isonota*, and a single Mindanao specimen with a wing of 100.5 mm. as "rather small." The six Mindoro specimens measured by Ripley and Rabor (1958, p. 43) had wings of 101-104 mm.

I have seen two Palawan specimens, probably two of the three examined by Mayr. Although their wing measurements (95, 98 mm.) are equivocal, I agree with Mayr that on the basis of color these probably represent an undescribed population. Although Mayr does not mention the underparts, these two Palawan specimens are darker ventrally than any other Philippine specimens of this species seen.

Mayr states that the white area on the abdomen of *marginata* is less extensive than in most specimens of *isonota*. With an unprecedented series of 42

specimens of *marginata* before me, I can not see anything in this supposed character.

Cebu specimens (topotypes of *marginata*) are rather consistent in having broad white margins to the rump feathers. Good series from three central Luzon localities (Lamao, Bataan Province, 11; Sacobia River valley, Pampanga Province, 5; Mt. Donald McDonald, Pampanga Province, 15) illustrate Mayr's statement that "the expression of these margins is quite variable, as illustrated by every series of this race." Actually these highly variable central Luzon birds probably represent intermediates between *isonota* of northern Luzon and typical *marginata* of Cebu; as indicated above, I do not believe the other characters listed by Mayr as separating these two subspecies are of any real value. Cebu specimens do have tails which average slightly less forked than *isonota*, but some of the Bataan birds show no fork at all (tail square), although geographically intermediate.

*Megalaima haemacephala*. **Crimson-breasted Barbet**

I follow Peters (1948, p. 31) in the spelling of this generic name; many recent authors have used *Megalaema*.

When Gilliard (1949, p. 276-277) discussed this species, he had available from northern Luzon only two specimens from "Locos Norte" [=Ilocos Norte Province]. He noted that "generally speaking, northern birds have the shortest bills . . ." Examination of additional Luzon material not seen by Gilliard not only supports this point, but indicates that subspecific separation of the northern and southern Luzon populations might be possible. However, Gilliard has restricted the type locality ("Philippine Islands") of *Bucco haemacephalus* P. L. S. Müller to Lamao, Bataan Province, a locality from which specimens are almost exactly intermediate in size between those of northern and southern Luzon, as suggested by Gilliard's own measurements.

Gilliard based his new race *celestinoi* on one specimen each from Samar and Leyte, stating that *celestinoi* differed from *haemacephala* only in size, not in color. The size differences shown in Gilliard's table of measurements are small, and might disappear if larger series were measured. I have examined Gilliard's two specimens. He mentioned a general north-south cline in increasing depth of color of the yellow throat. Although he did not so state in his description, the throat of *celestinoi* is rather brighter than that of *haemacephala*, as would be expected. In addition, the two specimens of *celestinoi* are among the most heavily pigmented individuals of this species examined, in that the ventral green streaks are deep, almost black, along the flanks; far darker, in fact, than those of Mindanao birds, although Rand (1948) used this as a character of his *mindanensis*. It is hard to evaluate the dorsal color of *celestinoi*, as both specimens are rather worn, but they appear darker than comparably worn specimens from Luzon. These color characters indicate that *celestinoi* is probably a more strongly differentiated race than would be apparent merely by reading the original description.

I have examined the same five adults from Mindoro that were listed by Gilliard. As indicated by his table of measurements, these average slightly smaller in wing and tail than Luzon birds (although not in bill), and thus indicate an approach to *celestinoi*. This is confirmed by color, the Mindoro birds being deeper in color, both dorsally and ventrally, than the average of Luzon birds. As a series, however, the Mindoro birds are best assigned to

*haemacephala*. Ripley and Rabor do not discuss this species in their Mindoro paper (1958).

I agree with de Schauensee (1957, p. 7) that *mindanensis* Rand is a very weak race. I have examined 8 Mindanao and 33 Luzon specimens, and find that the only characters that hold up at all are a slightly deeper yellow throat and slightly deeper green back in Mindanao birds, the latter difference much obscured by wear. The other characters ascribed by Rand to the underparts of *mindanensis* can easily be matched in the Luzon series. Although, as noted above, Gilliard did not mention color characters in his description of *celestinoi*, the latter race differs (as far as can be judged from the two specimens seen) more from *haemacephala* than does *mindanensis*, which was based entirely on color. In view of the extent of variation in color and size admitted in *haemacephala* in Luzon and Mindoro, it would appear that the slight differentiation of Mindanao birds is not worth nomenclatorial recognition.

### *Chrysocolaptes lucidus*. Crimson-backed Woodpecker

As is well known to the committee that prepared the most recent edition of the American Ornithologists' Union "Check-list of North American Birds", it is difficult to select a single appropriate English name for a wide-ranging, highly polytypic species. The name used above for *Chrysocolaptes lucidus* is that adopted by Delacour and Mayr (1946, p. 149), although, as these authors realize, this species is a mosaic of crimson-backed and golden-backed subspecies. Most of the Philippine races belong to the former group.

As Gilliard (1950, p. 472) has pointed out, several species of birds exhibit marked geographic variation on the large island of Luzon; his list of 14 species is somewhat incomplete (Parkes, 1958, p. 1-2). After having studied the birds of Luzon for over three years, I find that the most frequent pattern of geographic variation within the island does not agree precisely with Gilliard's division of Luzon into northern, western, and southern "subregions". Gilliard gave the boundary of his northern and southern subregions as "the isthmus between Tayabas and Lopez bays or . . . the region of Laguna de Bay." This does not accord with the pattern of geographic variation I have found most frequently. Leaving out of consideration the birds of the Sierra Madre of northeastern Luzon, which are all but unknown, most northern subspecies or differentiates of less than subspecific degree range south to about 16° N. Lat., or approximately to Pangasinan and northern Nueva Ecija provinces. Between this line and, approximately, Manila, is an area in which either of two things may happen. There may be a rather broad zone of intergradation between a northern and a southern form (as in *Collocalia esculenta* and *Rhipidura cyaniceps*); or the birds from this area may be referable to the southern form, so that there is a rather abrupt transition between the northern and southern races (*Parus elegans*, *Dicrurus balicassius*).

For many species of birds Manila is either the original or the subsequently restricted type locality. Manila is far enough south so that the birds from the general vicinity of the city are almost always identical with or close to the populations from southern Luzon. In such cases, a name has often been given to a north Luzon population. I have pointed out above that Gilliard's restricted type locality (Lamao, Bataan Province) for the nominate race of *Megalaima haemacephala* lies near the midpoint of a north-south cline on Luzon. Salomonsen (1953, p. 240) has shown that Gilliard (1949, p. 278)



was equally unfortunate in his choice of Lamao as the restricted type locality of *Picus haematribon* Wagler. There are north-south clines in both color and size in *Chrysocolaptes lucidus* on Luzon, and Bataan lies squarely in the middle of these clines. Gilliard might better have chosen a type locality south of Manila for *haematribon* (Salomonsen suggests Cavite Province; equally good would be Mt. Makiling, which Gilliard did select for the nominate race of *Mulleripicus funebris*). He could then, as Salomonsen points out, have described the northern mountain race as new. Salomonsen solved the dilemma by recognizing, albeit reluctantly, three subspecies on Luzon: his own *montium* in the north, *ramosi* Gilliard in the south, and *haematribon* Wagler in between.

While it is true that northern Luzon specimens tend to be grayer and larger than those of southernmost Luzon, there is extensive overlap. Salomonsen suggested "mixing of labels" as an explanation for what he considered to be incongruities in size, but examination of his table of measurements, as well as Gilliard's, suggests that the matter is not one of discrepancy but of variability. As for color, overlap occurs here as well. As implied by Gilliard in his description of *ramosi*, the color characters are scarcely visible in females. In males, only two of four northern Luzon specimens in the American Museum conform to the description of *montium*, the other two being indistinguishable from specimens from southern Luzon (= "*ramosi*"). The large series available from central Luzon is, as would be expected, extremely variable. It seems best to reunite all Luzon populations under the name *haematribon*, acknowledging the variation mentioned above. De Schauensee (1957, p. 7), although having examined only five specimens (all, contrary to de Schauensee's statement, from within the putative range of *ramosi*), also synonymized *ramosi* with *haematribon*, but did not mention *montium*.

Delacour and Mayr (1946, p. 150) considered *C. l. grandis* Hachisuka of Polillo to be "of doubtful standing". I agree with Salomonsen (1952, p. 350) that *grandis* is a good race. In addition to being larger than *haematribon*, it is more brightly colored (in adults). The brownness of the underparts mentioned by the describer (Hachisuka, 1930, p. 179) and by Salomonsen (1952, p. 350) is too variable in *haematribon* to be a certain character for *grandis*. However, in adults of the latter race the whole chest area is faintly washed with red, and the olivaceous areas of the wing (basal half of outer web of primaries, primary coverts, metacarpal edge, alula) are heavily washed with red. The small crown spots of Hachisuka's female type specimen represent a sign of immaturity rather than a subspecific character.

#### SUMMARY

Geographic variation in five Philippine non-passerine birds is reviewed. *Ptilinopus occipitalis brevipes* (Hachisuka) is revived for the population of the Mindanao highlands, *incognitus* Tweeddale being applicable to an intermediate population inhabiting lowland Mindanao and certain central islands. The status of the Philippine races of *Cacomantis variolosus* is reviewed, emphasizing the difficulties of studying this species. Information is also presented on the relationship of plumage stages, skull ossification, and soft-part colors of this species. In *Collocalia esculenta*, study of an exceptional series indicates that some characters used by previous authors to define subspecies



within the Philippines are of no geographic significance. The subspecies *Megalaima haemacephala celestinoi* Gilliard is tentatively upheld; *M. h. mindanensis* Rand is not considered separable from the nominate race. Both *Chrysocolaptes lucidus ramosi* Gilliard and *C. l. montium* Salomonsen are considered synonyms of *C. l. haematribon* (Wagler), but *C. l. grandis* Hachisuka is upheld.

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